AMENDMENTS TO THE CLAIMS

1.   (Currently amended) A method for producing a cluster of surface-modified metallic

colloid comprising (1) metallic colloid particles-comprising a metal and an (2) a Raman-enhancing

organic molecule on a surface of the metallic colloid, the method comprising:

            preparing a solution comprising cations of the metal and a reducing agent by

dissolving the cations and the reducing agent in the solution, subsequently heating the solution to

produce the metallic colloid, and modifying the metallic colloid by attaching the Raman-enhancing

organic molecule to the surface of the metallic colloid to produce the surface-modified metallic

colloid, wherein the Raman-enhancing organic molecule comprises a moiety that has an affinity for

the metallic colloid and another moiety that has an affinity for a biomolecule, and aggregating a

plurality of the surface-modified metallic colloid to form the cluster of surface-modified metallic

colloid,

            wherein the metallic colloid has a Raman signal that is greater than that of a silver colloid

prepared by a titration method wherein a boiling silver nitrate solution is titrated with a sodium

citrate solution to produce the silver colloid.

2.   (Original)   The method of claim 1, wherein the reducing agent is citrate or

borohydride.

3.   (Original)   The method of claim 1, wherein said heating is performed for at least

about 30 minutes.

4.   (Original)   The method of claim 1, wherein said heating is performed for at least

about 60 minutes.

5.   (Original)   The method of claim 1, wherein said heating is performed using microwaves.

6.   (Original)   The method of claim 1, wherein said heating is performed using a convection oven.

7.   (Canceled)

8.   (Original)   The method of claim 1, wherein the metal is silver, gold, platinum, or aluminum.

9.   (Currently amended)   The method of claim 1, wherein the Raman-enhancing organic molecule is a bifunctional organic molecule.

10.   (Currently amended)   The method of claim 1, wherein the Raman-enhancing organic molecule contains sulfur.

11.   (Currently amended)   The method of claim 1, wherein the Raman-enhancing organic molecule has a molecular weight less than about 500 Daltons.

12.   (Currently amended)   The method of claim 1, wherein the Raman-enhancing organic molecule contains a thiol moiety or a disulfide moiety.

13.   (Currently amended)   The method of claim 1, wherein the Raman-enhancing organic molecule is thiomalic acid, L-cysteine diethyl ester, S-carboxymethyl-L-cysteine, cystamine, or meso-2,3-dimercaptosuccinic acid.

14-46. (Canceled)

47.   (Previously Presented)   The method of claim 1, wherein the solution is an aqueous solution.

48.   (Previously Presented)   The method of claim 1, wherein said subsequent heating the solution is performed at a temperature of about 95°C.

49.   (Previously Presented)   The method of claim 1, wherein the metallic colloid produces a higher SERS signal than that produced by another metallic colloid comprising the same metal except that the another metallic colloid is produced by titrating the cations and the reducing agent in the solution at a near boiling point temperature.

50.   (Previously Presented)   The method of claim 49, wherein the metallic colloid produces at least about 50% higher SERS signal than that produced by the another metallic colloid.

51.   (Previously Presented)   The method of claim 1, wherein the cations and reducing agent are each present in the aqueous solution at a concentration of about 0.5 M or higher than 0.5 M.

52.   (Previously Presented)   The method of claim 1, wherein the metallic colloid has a Raman signal that is 50% or more than that of a silver colloid prepared by a titration method wherein a boiling silver nitrate solution is titrated with a sodium citrate solution to produce the silver colloid.

53.   (Previously Presented)   The method of claim 1, wherein the metallic colloid is formed by aggregating a plurality of the metallic particles to form clusters ranging from about 50 nm to 200 nm.

54.   (Currently amended) A method for producing a cluster of surface-modified metallic colloid comprising (1) metallic colloid particles-comprising a metal and an-(2) a Raman-enhancing organic molecule on a surface of the metallic colloid, the method comprising:

preparing a solution comprising cations of the metal and a reducing agent by

dissolving the cations and the reducing agent in the solution, subsequently heating the solution to

produce the metallic colloid, ~~and~~ modifying the metallic colloid by attaching the Raman-enhancing

organic molecule to the surface of the metallic colloid to produce the surface-modified metallic

colloid, wherein the Raman-enhancing organic molecule comprises a moiety that has an affinity for

the metallic colloid and another moiety that has an affinity for a biomolecule, and

~~wherein the metallic colloid is formed by~~ aggregating a plurality of the surface-

modified metallic colloid ~~particles~~ to form ~~clusters~~ the cluster of surface-modified metallic colloid,

wherein the cluster has a size ranging from about 50 nm to 200 nm.

55.   (Original)   The method of claim 1, wherein the metallic colloid has a Raman

signal that is about 140% to 180% more than that of a silver colloid prepared by a titration method

wherein a boiling silver nitrate solution is titrated with a sodium citrate solution to produce the

silver colloid.

56.   (New) The method of claim 1, wherein the cluster of surface-modified metallic

colloid has a Raman signal that is greater than that of a silver colloid prepared by a titration method

wherein a boiling silver nitrate solution is titrated with a sodium citrate solution to produce the

silver colloid.